

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) An ink ink for ink-jet recording containing an insoluble dye ~~a coloring material~~, a humectant, a penetrant, water, and an amphiphilic star block polymer comprising a core and arms, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m, wherein each of said arms has a hydrophobic segment and a hydrophilic segment, and the hydrophilic segment is located at the end of the arm farthest from the core.
2. (original) The ink of Claim 1, wherein the viscosity at 25°C is in a range of 1 to 10 mPa • s.
3. (currently amended) An ink cartridge including ink for ink-jet recording, the ink containing an insoluble dye ~~a coloring material~~, a humectant, a penetrant, water, and an amphiphilic star block polymer comprising a core and arms, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m, wherein each of said arms has a hydrophobic segment and a hydrophilic segment, and the hydrophilic segment is located at the end of the arm farthest from the core.

4. (currently amended) A recording apparatus including ink for ink-jet recording, the ink containing an insoluble dye ~~a coloring material~~, a humectant, a penetrant, water, and an amphiphilic star block polymer comprising a core and arms, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m, wherein each of said arms has a hydrophobic segment and a hydrophilic segment, and the hydrophilic segment is located at the end of the arm farthest from the core; and

wherein recording is performed by jetting the ink onto a recording medium.

5. (currently amended) An ink ~~ink~~ for ink-jet recording containing an insoluble dye ~~a coloring material~~, a humectant, a penetrant, water, and an amphiphilic heteroarm star polymer, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m, wherein the amphiphilic heteroarm star polymer has a hydrophobic segment and a hydrophilic segment, and the hydrophilic segment disperses the insoluble dye in an ink composition.

6. (original) The ink of Claim 5, wherein the viscosity at 25°C is in a range of 1 to 10 mPa • s.

7. (currently amended) An ink cartridge including ink for ink-jet recording, the ink containing an insoluble dye ~~a coloring material~~, a humectant, a penetrant, water, and an amphiphilic heteroarm star polymer, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m, wherein the amphiphilic heteroarm star polymer has a

hydrophobic segment and a hydrophilic segment, and the hydrophilic segment disperses the insoluble dye in an ink composition.

8. (currently amended) A recording apparatus including ink for ink-jet recording, the ink containing an insoluble dye a coloring material, a humectant, a penetrant, water, and an amphiphilic heteroarm star polymer, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m,

wherein recording is performed by jetting the ink onto a recording medium,
the amphiphilic heteroarm star polymer has a hydrophobic segment and a hydrophilic segment, and

the hydrophilic segment disperses the insoluble dye in an ink composition.

9. (currently amended) An ink ink for ink-jet recording containing an insoluble dye a coloring material, water, a surface-active material, and an additive composed of a hydrophobic segment that attaches to said insoluble dye coloring material and a hydrophilic segment located outside of said hydrophobic segment, the surface tension of the ink at 25°C being in a range of 20 to 50 mN/m.